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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,171	08/21/2003	Eileen Chant		7278

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EXAMINER

JIANG, CHEN WEN

ART UNIT PAPER NUMBER

3744

DATE MAILED: 05/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/645,171	CHANT, EILEEN	
	Examiner	Art Unit	
	Chen-Wen Jiang	3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 August 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watabe et al. (JP 62055247) in view of Denniston (U.S. Patent Number 5,514,035).

Watabe et al. disclose a dehumidifier with air conditioner system of a vehicle. The system comprises an evaporator 40, a dehumidifier 100 having desiccant 102 at the downstream of the evaporator 40 and an electric heating coil 104. However, Watabe et al. do not disclose desiccant wheel using vehicle's excess heat. Denniston discloses desiccant wheel in the vehicle is regenerated by hot air from a heat exchanger or other heat source using engine excess heat or heat from compressor or hot section in the vehicle in the same field of endeavor for the purpose of regeneration. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the apparatus of Watabe et al. with a vehicle excess heat for regenerating desiccant wheel in view of Denniston to use waste heat.

3. Claims 1-4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bhatti et al. (U.S. Patent Number 5,509,275) in view of Klapp et al. (U.S. Patent Number 6,360,550).

Bhatti et al. disclose a dehumidifying mechanism for auto air conditioner. Referring to Fig. 1, the system comprises an evaporator 18 and a desiccant wheel 28 at the upstream of the evaporator. The regeneration is performed using engine waste heat. However, Bhatti et al. do not

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disclose the desiccant located at the downstream of the evaporator. Klapp et al. disclose the dehumidifier located at the downstream of the evaporator in the same field of endeavor for the purpose of dehumidifying. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the apparatus of Bhatti et al. with a dehumidifier located at the downstream of the evaporator in view of Klapp et al. to dehumidify.

4. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dinnage et al. (U.S. Patent Number 6,557,365) in view of Denniston (U.S. Patent Number 5,873,256).

Dinnage et al. disclose a desiccant refrigerant dehumidifier for an enclosure. Referring to Figs. 7, 8 and 11, the system comprises a desiccant wheel 60, an evaporator 52 and condenser 58 for regeneration heated air. However, Dinnage et al. do not disclose the enclosure is a vehicle compartment. Denniston discloses the refrigeration system using in the vehicle in the same field of endeavor for the purpose of cooling vehicle compartment. The utilization waste heat may comprise various heat-generated component in the vehicle (col. 69-70). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the apparatus of Dinnage et al. applied to vehicle in view of Denniston so as to environment control of vehicle.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chen-Wen Jiang whose telephone number is (703) 308-0275. The examiner can normally be reached on Tuesday-Friday from 7:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Denise Esquivel can be reached on (703) 308-2597. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chen-Wen Jiang  
Primary Examiner

A handwritten signature in black ink, consisting of a stylized 'C' followed by a large, loopy 'W' and a trailing flourish.